

REMARKS

In the September 16, 2004, Office Action, the Examiner rejected Claims 1-4, 6-11 and 14-22 as being anticipated by U.S. Patent No. 3,741,786 (Torrey). The Examiner rejected Claims 1-2, 4-10, 12 and 14-19 as being anticipated by U.S. Patent No. 4,961,804 (Aurichio). The Examiner rejected Claims 1-22 under 35 U.S.C. 103(a) as being unpatentable over Torrey. The Examiner rejected Claims 1-22 under 35 U.S.C. 103(a) as being unpatentable over Aurichio in view of Torrey.

Further, Claims 1-22 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 5,935,670. In addition, Claims 1-22 were rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-6 of U.S. Patent No. 6,686,016.

Accordingly, Applicant hereby submits a Terminal Disclaimer in compliance with 37 CFR 1.321(c) to overcome the double patenting rejection of Claims 1-22 over claims 1-6 of U.S. Patent No. 5,935,670. The conflicting patent, United States Patent No. 5,935,670, and the present application, 10/770,139, are both owned by Glue Dots International, LLC. In addition, Applicant hereby submits a Terminal Disclaimer in compliance with 37 CFR 1.321(c) to overcome

the double patenting rejection of Claims 1-22 over claims 1-22 of U.S. Patent No. 6,686,016. The conflicting patent, United States Patent No. 6,686,016, and the present application, 10/770,139, are both owned by Glue Dots International, LLC. In view of the filing of each of the Terminal Disclaimers and the common ownership of the cited patents and the present application, the withdrawal of the obviousness-type double patenting rejections of the claims is respectfully requested.

Finally, Claims 12 and 13 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the Applicant regards as the invention. Applicant believes the issue to be typographical in nature. Accordingly, solely for purpose of clarification and without further limitation, Claims 12 and 13 are hereby amended to replace "said adhesive disks" with "said adhesive segments" and are believed in condition for allowance. Applicant thanks the Examiner for pointing out such error.

Applicant regards as his invention a novel adhesive dispensing tape including a flexible carrier tape having a transverse width, a longitudinal length comprising a plurality of contiguous longitudinal segments extending along the entire length of the carrier, and having opposed first and second release surfaces.

Each longitudinal segment of the carrier tape spans the entire width of the carrier tape.

The dispensing tape includes a plurality of adhesive segments which are arrayed non-contiguously (or spaced apart) along the longitudinal length of the carrier tape. With respect to Claims 1 and 7, a single adhesive segment is located within each of the longitudinal sections. That is, for each of the plurality of adhesive segments arrayed non-contiguously in the longitudinal direction of the carrier tape, there are no other adhesive segments also disposed in the same longitudinal segment of the carrier tape. Thus, within each longitudinal segment along the carrier tape, a single adhesive segment is disposed. With respect to Claim 16, multiple adhesive segments may be disposed within each longitudinal segment along the carrier tape, however, the adhesive segments do not touch (are arranged in a spaced-apart manner) and the same number of adhesive segments are disposed in each longitudinal segment along the carrier tape.

With respect to Claims 1 and 7, the dispensing tape of the present invention differs radically from all prior art dispensing tapes in that a single adhesive segment is exposed to an abutting planar surface when the carrier tape is transversely flexed, eliminating the risk of the surface picking up multiple adhesive segments.

Applicant has amended Claims 1 and 7 to more positively recite that a single adhesive segment is individually exposable to an abutting planar surface when the carrier tape is transversely flexed. Claim 16 has been amended to recite that each longitudinal segment along the carrier tape contains the same number of adhesive segments disposed thereon. Finally, Claims 1, 7 and 16 have been amended to recite hot melt adhesive segments. Accordingly, Claims 2, 8 and 17 have been cancelled.

**Rejection of Claims 1-4, 6-11 and 14-22 under 35 USC § 102 in view of
Torrey**

Claims 1-4, 6-11 and 14-22 were rejected as being anticipated by Torrey. However, Applicant asserts that the primary reference is not believed to be relevant to the present invention, and certainly in no way teaches or suggests the present invention as claimed.

Torrey discloses a transfer tape having a plurality of pressure sensitive adhesive segments applied thereto, forming patterns of adhesive segments. As illustrated in Figs. 1 and 2, Torrey teaches multiple adhesive segments disposed within a longitudinal segment of the carrier tape, and thus, more than one adhesive segment (i.e., multiple adhesive segments) positioned in the transverse width of the

carrier tape within each longitudinal segment. These configurations of adhesive segments are intended to maximize the ability to transfer any desired portion of adhesive to a single substrate.

With respect to the Torrey embodiment disclosed in Fig. 1, multiple adhesive segments are disposed within a longitudinal segment of the carrier tape; however, each longitudinal segment includes a different number of segments.

Further, Torrey describes the adhesive segments as "substantially non-contiguous." However, "substantially non-contiguous" is defined by Torrey to encompass adhesive segments that abut, touch, or are attached to each other. Indeed, Figs. 2, 3 and 4 of Torrey disclose adhesive segments that are touching each other on the carrier tape. Thus, Torrey does not disclose adhesive segments that are clearly non-contiguous (or spaced apart) along the longitudinal length of the carrier tape.

Claims 1, 7 and 16 of the present invention clearly distinguish over Torrey by reciting that the adhesive segments are arrayed or disposed non-contiguously (spaced-apart so as not to touch) in the longitudinal direction of the carrier tape. Unlike the present invention, the adhesive segments in Torrey are either touching, i.e. contiguous, or the carrier tape of Torrey contains multiple segments that are positioned in rows in the transverse direction within a given longitudinal segment

of the carrier tape. The adhesive segments in Torrey are arranged in this close adjacent or contiguous manner in order to overcome the specified problems of the prior art recited in Torrey, i.e. having to cut the carrier tape or the adhesive in order to dispense large portions adhesive.

In addition, Claims 1, 7 and 16 distinguish over Torrey by reciting hot melt adhesive segments. Torrey only describes pressure sensitive adhesive segments and does not teach, disclose or suggest any other type of adhesive.

Claims 1 and 7 further distinguish over Torrey by reciting that only one of the adhesive segments is exposable to an abutting planar surface when the adhesive tape is transversely flexed. Torrey specifically teaches overcoming the problems of the prior art by permitting more than one adhesive segment, or a large portion of adhesive segments to be dispensed to a substrate without the need for cutting the adhesive material or the carrier tape (see col. 3, lines 57-63; col. 4, lines 6-10). Thus, rather than teaching a large, uniform sheet of adhesive that must be cut from the carrier tape in order to be applied to a substrate, Torrey overcomes the prior art by teaching adhesive segment patterns that enable differing amounts of adhesive, and importantly, more than one adhesive segment, to be exposed and dispensed to a single substrate at any given time.

Indeed, Torrey teaches that the pattern and spacing of the adhesive on the tape is not critical provided that any amount of adhesive can be applied to a single substrate (see col. 2, lines 67-71, col. 3, lines 69-71, and Claim 1). As illustrated in Figs. 1-4, the adhesive segments are either abutting or close adjacent to each other on the carrier tape so that multiple segments are exposed to an abutting planar surface when the carrier tape is transversely flexed. In direct contrast to the dispensing tape of the present invention, this is cited as a distinct advantage of the Torrey invention (col. 6, lines 31-35).

With respect to Claim 16, the present invention distinguishes over Torrey by reciting a plurality of spaced-apart adhesive segments wherein each of the longitudinal segments of the carrier tape contains the same number of adhesive segments disposed therein. Fig. 2 of Torrey discloses the same number of adhesive segments in each longitudinal segment, however, these segments are touching each other. Accordingly, the Torrey embodiment disclosed in Fig. 2 does not contain each and every element of Claim 16 of the present invention.

Accordingly, it is respectfully asserted that Torrey does not anticipate, or make obvious, Claims 1, 7 and 16 and all claims depending therefrom, including Claims 2 through 4, 6, 8 through 11, 14, 15 and 17 through 22; therefore, Claims 1 through 22 are patentable over Torrey.

Rejection of Claims 1-2, 4-10, 12 and 14-19 under 35 USC § 102 in view of Aurichio

Claims 1-2, 4-10, 12 and 14-19 as being anticipated by Aurichio. However, Applicant disagrees with the Examiner that the present claims are anticipated by or obvious in light of Aurichio.

Aurichio discloses a dicing film to support semiconductor wafers as they are diced into individual chips. The dicing film 11 include a pattern of conductive adhesive 14 to support the wafers 15 as they are deposited on the film. The adhesive used is pressure-sensitive, such that the surface of the adhesive is sufficiently tacky to achieve full surface contact of the wafers and held in such tacky state during wafer attachment. See Col. 2, lines 37-46 and Col. 3, lines 44 through 48. After dicing of the semiconducting wafers, the diced adhesive, with the chip attached, must be capable of easy separation from not only the film, but from the remaining pieces of chip remaining on film.

Unlike pressure sensitive adhesives, hot melt adhesives are polymeric thermoplastic compounds that are applied molten and form a bond upon cooling. Accordingly, use of a hot melt adhesive is not taught, described or considered by the Aurichio reference, as applying a semiconducting wafer to a hot melt adhesive

in a sufficiently tacky state, as required by Aurichio, would damage the sensitive printed circuitry.

Moreover, use hot melt adhesives would not permit the Aurichio invention to function for its intended purpose -- namely, easy separation of the diced chips including a portion of the adhesive from the film. Rather, a hot melt adhesive diced into contiguous (touching) pieces, as recited in Aurichio, would not easily separate and would become stretched and deformed during an attempt to separate the pieces. Indeed, if the adhesive becomes deformed during separation, the chip is likely to come off of the adhesive and/or be difficult to position onto the chip carrier.

Further, the adhesive pattern taught by Aurichio is a single row of adhesive circles. Because the adhesive is designed to of the same shape and dimension of the wafers applied thereto, no other geometric adhesive shape is contemplated by Aurichio.

Accordingly, Claims 1, 7 and 16 of the present invention distinguish over Aurichio by reciting that the adhesive segments are hot melt adhesives. There is no teaching or suggestion to use hot melt adhesives in the Aurichio invention; rather, as stated herein, use of such adhesives would render the invention unsatisfactory for its intended purpose. Therefore, it is respectfully asserted that

Aurichio does not anticipate, or make obvious, Claims 1, 7 and 16 and all claims depending therefrom, including Claims 2, 4 through 10, 12 and 14 through 19; therefore, Claims 1 through 22 are patentable over Aurichio.

Rejection of Claims 1 through 22 under 35 USC § 103 in view of Torrey

In light of the foregoing, Applicant respectfully disagree with the Examiner's assertion that Claims 1 through 22 are obvious in light of Torrey because the Examiner has not established a prima facie case of obviousness. To establish a prima facie case, there must be some suggestion or motivation, either in the references themselves or in knowledge generally available to one of ordinary skill in the art, to modify the reference. Second, there must be a reasonable expectation of success. Finally, the prior art reference must teach or suggest all the claim limitations of the invention as a whole.

In particular, there is simply no suggestion, motivation, or teaching in Torrey to provide an adhesive dispensing tape in which a plurality of adhesive segments are spaced apart along the entire longitudinal length of the carrier tape and in which there is only one adhesive segment disposed within each longitudinal segment of the carrier tape along the entire length of the carrier tape. Torrey does

not disclose a carrier tape in which a single adhesive segment is individually exposed to an abutting planar surface when the carrier tape is transversely flexed. One skilled in the art would not garner from Torrey a motivation to space the adhesive segments as disclosed in the present invention because the adhesive patterns of Torrey are specifically provided to readily expose multiple adhesive segments to a surface, without the need for cutting the adhesive or the tape.

While the orientation of the adhesive patterns in Torrey is a function of adhesive coverage per unit area, it is not contemplated, suggested or taught by Torrey to array the adhesive segments so they are spaced-apart along the length of the carrier tape and to position only one adhesive segment within each longitudinal segment of the carrier tape along the entire length of the tape. Further, it is not taught by Torrey that a single adhesive segment is individually exposable to an abutting planar surface when the carrier tape is transversely flexed. Clearly, if the Torrey invention was arranged in this manner, Torrey would not work for its intended purpose, that is, to adhere portions of adhesive segments to a single substrate. (See again, col. 6, lines 32-37; col. 6, lines 47-58 (in which a plurality of adhesive segments are applied to a single substrate but the segments act discretely), and Claim 1). Instead, Torrey teaches adhesive segments arranged substantially in rows (i.e. with more than a single adhesive segment being located

within a longitudinal portion of the carrier tape) or abutting/touching each other along the length of the carrier tape.

More specifically, with respect to Claims 1 and 7, Torrey does not disclose a carrier tape in which a single adhesive segment is individually exposable to an abutting planar surface when the carrier tape is transversely flexed. Further, with respect to Claim 16, it is not contemplated, suggested or taught by Torrey to array the adhesive segments so they are spaced-apart along the length of the carrier tape and to arrange the adhesive segments so that each longitudinal segment includes the same number of adhesive segments. Again, Torrey specifically provides the ability to dispense a substantially continuous portion of adhesive to a surface, as such, Torrey would not provide adhesive as recited in Claim 16.

Thus, as stated herein, Torrey does not disclose a single adhesive segment disposed within each longitudinal segment of the carrier tape, which longitudinal segments are non-contiguously arrayed along the entire length of the tape. Instead, Torrey discloses rows of adhesive segments at any given point along the carrier tape; *or alternatively* discloses adhesive segments that are arrayed contiguously – each of which arrangement maximizes the ability to dispense a large portion of adhesive at any one given time.

Finally, as recited herein, the present claims distinguish over Torrey by reciting hot melt adhesive segments. Torrey does not teach or suggest the use of an adhesive of a type other than pressure-sensitive adhesive.

Accordingly, Torrey does not disclose all the claim limitations of the present invention, and should be withdrawn as a reference.

Applicant notes that the present application, including Claims 1 through 22, does not expressly or inherently limit the shape of the adhesive segments to circular or disk-shaped segments, as suggested by the Examiner. The present claims contemplate any shape adhesive segment, arranged in the manner described in Claims 1, 7 and/or 16. As discussed above, the adhesive dispensing tape of the present invention is not anticipated by nor obvious in light of Torrey because the Torrey reference does not disclose or suggest each limitation of the present invention. Moreover, Torrey teaches away from an adhesive dispensing tape as discussed in the present invention because Torrey is specifically directed to adhering portions of adhesive segments to a single substrate. Indeed, the teachings of Torrey suggest that adhesives arranged in the manner described by the present invention would be inefficient for such purpose, as Claims 1, 7 and 16 require segments that are spaced apart from each other.

Accordingly, it is respectfully asserted that the present invention is not obvious in light of Torrey. Thus, it is believed Claims 1 through 22 are patentable and in condition for allowance.

Rejection of Claims 1 through 22 under 35 USC § 103 in view of Aurichio and Torrey

Claims 1-22 were rejected under 35 U.S.C. 103(a) as being unpatentable over Aurichio in view of Torrey. In light of the above discussions of Torrey and Aurichio, Applicant respectfully disagrees that the present invention is obvious in light of Aurichio or Torrey. Indeed, Applicant asserts that there is no motivation found in either Aurichio or Torrey or both to make the Examiner's proposed combination. Further, even if combined, neither reference teaches or suggests every claim limitation of the present invention.

Applicant disagrees with the Examiner that one skilled in the art would modify Aurichio by utilizing a release coating on both sides of the dicing film, rather than providing the release liner 16. Indeed, in light of Aurichio, the two options are clearly not functionally equivalent. In particular, Aurichio provides a dicing film for carrying adhesive disks and semiconductor wafer disposed thereon. A release liner 16 may be provided to protect the top side of the adhesive from

collecting dust or from damage before the wafer is applied. See Col. 3, lines 49 through 55. One skilled in the art would simply not wind the adhesive laden dicing film of Aurichio into rolls as in Torrey. Such an action would damage or distort the adhesive rendering the dicing film unsuitable for application of the wafers. Indeed, if wound into rolls, the Aurichio dicing film would no longer provide a substantially flat upper surface as required, as the adhesive would become curled or kinked. Accordingly, Aurichio teaches away from the modification proposed by the Examiner, rendering the combination untenable.

In addition, as recited herein, neither Aurichio nor Torrey teach or suggest hot melt adhesive segments. Indeed, for the reasons stated herein, one skilled in the art would simply not use hot melt adhesives with the dicing film of Aurichio as such adhesive would render the film unsuitable for its intended purpose, and therefore, Aurichio teaches away from Claims 1, 7 and 16. Moreover, there is no suggestion or motivation in Torrey to utilize hot melt adhesives. Thus, there is no combination of Aurichio or Torrey that teaches or suggests this limitation of the present invention.

Accordingly, Claims 1 through 22 are not obvious in light of Aurichio in view of Torrey, and such rejection should be appropriately withdrawn.

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In summary, Claims 1-22 are believed to be allowable for the reasons given herein. Accordingly, these claims remain pending following entry of this Amendment, and are believed to be in condition for allowance at this time. As such, Applicant respectfully requests entry of the present Amendment and reconsideration of the application, with an early and favorable decision being solicited. Should the Examiner believe that the prosecution of the application could be expedited, the Examiner is requested to call Applicant's undersigned representative at the number listed below.

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